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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/625,527

07/24/2003

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Q76642

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23373 7590 09/25/2007
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EXAMINER

DESAI, ANISH P

ART UNIT

PAPER NUMBER

1771

MAIL DATE

DELIVERY MODE

09/25/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/625,527	Applicant(s) YOSHIDA ET AL.	
	Examiner Anish Desai	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's arguments in response to the Office action dated 04/19/07 have been fully considered.

1. Claims 1-8 and 10 are pending. Claims 9 and 11-19 are cancelled.
2. All of the previously made art rejections are maintained.
3. The terminal disclaimer filed on 07/18/07 disclaiming the terminal portion of any patent granted on this application, which would extend beyond the expiration date of US Application S/N 11/524,177 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-8 and 10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Barrera (US 5,965,256) substantially as set forth in the previous Office Action.

Regarding claims 1-3, 6, and 7 Barrera discloses a multi-layered film disposed on a substrate. The multi-layered film of Barrera comprises interpenetrating polymer networks (IPN) layer, preferably acrylate-urethane IPN. The IPN layer of Barrera's invention is prepared by simultaneous thermal cure of a mixture of acrylate monomer(s) via free-radical polymerization and urethane precursors, namely polyisocyanate and polyfunctional alcohols, via condensation polymerization (column 8, lines 14-19 and column 12, lines 55-67). Further, Barrera teaches a method of forming the multi-layered film (protective film) wherein the method comprises steps of (a) coating or otherwise depositing a layer comprising IPN film precursors onto a cured adhesive film; (b) coating or otherwise depositing a fluoro-containing topcoat layer onto the curable IPN film precursor, wherein the fluoro-containing topcoat layer is selected from the group consisting of a cured fluoropolymer and energy curable fluoropolymer precursor; and (c) applying at least one heat and light energy to the construction to cure the curable IPN film precursors and the energy-curable fluoropolymer precursor (column 3, lines 60-67 and column 4, lines 1-3). Further the adhesive used in the invention of Barrera is a pressure-sensitive adhesive (PSA) (column 5, line 65). The urethane-acrylate IPN layer of Barrera is equated to a composite film comprised by a composition containing a urethane polymer and a vinyl polymer as effective components as claimed. Additionally, the fluoro-containing topcoat layer is equated to a first film comprising a material different from that of the composite film. The structure of the multilayered film of Barrera is fluoro-containing topcoat layer/IPN layer/PSA layer, which reads on the claimed structure of first film/composite film/PSA layer as presently claimed.

Given that Barrera teaches what has been set forth above, and especially with regards to claims 1-3, 6, and 7 it is the position of the Examiner that the properties of the PSA sheet having

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a modulus of 9 N/mm^2 or more and 250 N/mm^2 or less when an oblong piece of the PSA sheet with a width of 20 mm is bent at a radius of curvature of 3.0 mm (claim 1), the PSA sheet has a modulus of 15 N/mm^2 or more and 250 N/mm^2 or less when an oblong piece of the PSA sheet with a width of 20 mm is bent at a radius of curvature of 3.0 mm (claim 2), the composite film has a storage modulus of at 25°C of less than $2.0 \times 10^8 \text{ Pa}$ and a storage modulus at 100°C of $3.0 \times 10^5 \text{ Pa}$ or more (claim 6), wherein the first film has a storage modulus at 25°C of $2.0 \times 10^8 \text{ Pa}$ or more, would be present in the invention of Barrera. Support for said assumption is relied upon the fact that the PSA sheet of both inventions i.e. that of Applicant and Barrera comprise a first film having a material different from the composite film/composite film comprising a urethane polymer and a vinyl polymer/PSA layer. The invention of Barrera is structurally and compositionally equivalent to the PSA sheet of the presently claimed invention. Therefore, the presently claimed properties would have been present. The burden is upon the Applicant to prove it otherwise (see *In re Fitzgerald* 205 USPQ 594). In addition, the presently claimed properties would obviously have been present once the multi-layered film of Barrera is provided (*In re Best*, 195 USPQ at 433, footnote 4 CCPA 1977).

With regards to claim 4, the recitation "composite film comprises a film obtained by reacting a polyol and a polyisocyanate...coating to cure it." is directed to product by process limitation. The products by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "Even though product by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product by process claim is the same as or obvious from a product of the prior art, the

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claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983). In the instantly claimed invention the composite film of the Applicant contains a composition which comprises a urethane polymer and an acrylic polymer (vinyl polymer) that is irradiated by radiation. The invention of Barrera is previously noted. As previously noted, the IPN layer of Barrera is formed of acrylate-urethane IPN (column 1, lines 9-10). Additionally, Barrera discloses oven curing of urethane and acrylate polymer mixture to form IPN layer (column 12, lines 65-67). Therefore, the IPN layer of Barrera is similar to Applicant's claimed composite film.

With regards to claims 8 and 10, Barrera discloses the first film having a thickness 0.025 mm (column 20, line 66), which converts to 25 μm (1 mm = 1,000 μm). This disclosure of Barrera meets the claim limitation of the first film has a thickness (t_1) of 10 μm or more and 200 μm or less as claimed in claims 8 and 10. Additionally, Barrera discloses the composite film having a thickness of 0.1 mm (column 18, line 45), which converts to 100 μm . This disclosure of Barrera meets the claim limitation of the composite film has a thickness (t_2) of 10 μm or more and 300 μm or less as claimed in claims 8 and 10. Accordingly, Barrera anticipates or strongly suggests the claimed invention.

Response to Arguments

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5. Applicant's arguments with respect to claims 1-8 and 10 have been considered but they are not found persuasive.

Applicant argues that the reference of Berrera does not explicitly define IPN layer, instead in the background portion Barrera refers to two reference books. Barrera specifically states “interpenetrating polymer networks (IPNs), systems comprising two independent networks are described” (column 1 lines 65 to column 2 line 4). Applicant has provided the definition of the IPN layer from the each reference book and the Examiner thanks Applicant for providing the definition of IPN. According to Applicant “an IPN is an intimate combination of two different cross-linked polymer networks (for example A and B), wherein the polymer A network is entangled in the polymer B network, but wherein there are no induced covalent bonds between the two polymers.” (page 4 of 07/18/07 amendment). According to Applicant “By contrast, in the present invention, the composite film is comprised by a composition containing a urethane polymer and a vinyl polymer as effective components. The urethane polymer does not have cross-linked structure. Only the vinyl polymer may have a cross-linked structure. Thus, the combination of a urethane polymer and vinyl polymer does not constitute two polymers, each having cross linked structures. Hence, the polymer structure of the claimed composite film does not meet the definition of IPN. Accordingly the structure as claimed cannot be met by the IPN structure of Barrera.” (page 4 of 07/18/07 amendment).

The Examiner respectfully disagrees with Applicant because Applicant's argument are not commensurate in scope with the claims. The claim requires “composite film comprised by a composition containing a urethane polymer and a vinyl polymer as effective components”. There is no requirement in the claim that “the urethane polymer does not have a cross-linked

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structure and only the vinyl polymer may have a cross-linked structure” as asserted by Applicant. Additionally, it is noted that while Applicant has provided a definition of “IPN” from various sources, Applicant ignores the teaching of Barrera at column 8 lines 8-10, which states “Preferably...film layer comprises an interpenetrating polymer (IPN) network comprising one or more acrylate polymers [vinyl polymer] and one or more urethane polymers.” This disclosure of Barrera reads on the claim language of “composite film comprised by a composition containing a urethane polymer and a vinyl polymer as effective components”, i.e., Applicant’s claim does not preclude IPN.

Applicant argues that the Examiner asserts that there is a teaching in Barrera of first film has a thickness of 10 μm or more and 200 μm or less and the composite film has a thickness of 10 μm or more and 300 μm or less, and wherein a ratio of the thicknesses is 0.1 to 10. According to Applicant the teaching in Barrera at column 20 line 66 of a fluoro polymer layer that is knife coated onto a PSA substrate is cited to teach the film thickness by the Examiner. Applicant argues that there is no teaching as to whether this thickness dimension changes after curing, which would be the time that the multi-layer film would be compared to the invention. The examiner respectfully disagrees. It appears that Applicant is inferring that the thickness of the film would change after the curing in the invention of Barrera. However, Applicant is not providing any factual evidence to support his argument. To the Examiner, the prior art of Barrera discloses a thickness of the film that reads on the thickness of the Applicant’s film. The reference does not discuss a process through which the applied coating thickness would change. Additionally, Barrera does not disclose that the thickness of his film changes after the curing.

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Therefore, it is reasonable to presume that the thickness of the film of Barrera does not change by curing. Accordingly, art rejections are maintained.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anish Desai whose telephone number is 571-272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. D./
APD

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